In The Claims

Applicant submits below a complete listing of the current claims, with any insertions indicated by underlining and any deletions indicated by strikeouts and/or double bracketing.

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of the Claims

1.   (Currently amended) A method for transmitting digital messages through output terminals ~~(22)~~ of a monitoring circuit ~~(18)~~ integrated to a microprocessor ~~(12)~~ on execution of an instruction sequence by the microprocessor, each digital message being representative of characteristic data ~~memorized~~ stored by the monitoring circuit on detection of a specific event from among several specific events in the execution of the instruction sequence, one of said data corresponding to an identifier of said specific event, ~~characterized in that it comprises the steps of~~ comprising:

comparing the characteristic ~~memorized~~ stored data of the last two detected specific events corresponding to a same identifier;

if the compared data are identical, incrementing a repetition counter associated with said specific event; and

if the compared data are different, transmitting a digital message representative of the data characteristic of the last detected specific event and, further, if the content of the repetition counter associated with said specific event is different from zero, transmitting a digital message indicating a repetition of the specific event.

2.   (Original) The method of claim 1, in which the digital message indicating a repetition of the specific event comprises the content of the repetition counter associated with said specific event.

3.   (Currently amended) The method of claim 1, further comprising ~~the step of~~ resetting the repetition counter associated with said specific event after transmission of a digital message indicating a repetition of the specific event.

4.   (Currently amended) The method of claim 1, in which the characteristic data comprise the number of instructions executed by the microprocessor (12) between the last two detected specific events.

5.   (Currently amended) The method of claim 1, in which the specific event is a jump in the instruction sequence executed by the microprocessor (12).

6.   (Currently amended) The method of claim 5, in which the characteristic ~~memorized~~ stored data comprise data representative of the address of the destination instruction of the last detected jump.

7.   (Currently amended) The method of claim 1, in which the specific event is a read or write instruction in the instruction sequence executed by the microprocessor (12).

8.   (Currently amended) The method of claim 1, further comprising ~~the steps of~~:

transmitting a digital message indicating a repetition of the specific event if the content of the repetition counter associated with said specific event is greater than a determined threshold; and

setting the repetition counter associated with said specific event to zero.

9.   (Currently amended) A device for transmitting digital messages between a monitoring circuit (18) integrated ~~to~~ with a microprocessor (12) and an analysis tool (24), on execution of an instruction sequence by the microprocessor, comprising:

~~a~~ means for detecting a specific event from among several specific events in the execution of the instruction sequence;

~~a~~ means for ~~memorizing~~ storing data characteristic of the detected specific event, one of said characteristic data corresponding to an identifier of the specific event; and

~~a~~ means for transmitting a digital message representative of the ~~memorized~~ stored characteristic data,

characterized in that it comprises:

a means for comparing memorized stored characteristic data of the last two detected specific events corresponding to a same identifier;

a means for incrementing a repetition counter associated with said specific event when the comparison means provides a signal indicating that the compared data are identical,

and in that the transmission means is capable of transmitting a message representative of the data characteristic of the last detected specific event when the comparison means provides a signal indicating that the compared data are different and, further, of transmitting a digital message indicating a repetition of the specific event when the incrementation means provides a signal indicating that the content of the repetition counter associated with said specific event is different from zero.

10. · (Original) The device of claim 9, in which the incrementation means is further capable of setting the repetition counter associated with said specific event to zero when the transmission means transmits a digital message indicating a repetition of the specific event.